



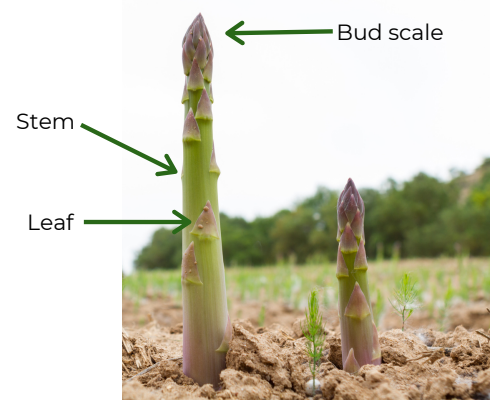
Kentucky Harvest of the Month

APRIL: ASPARAGUS

Growing Asparagus

Asparagus takes 3-4 years from seed to produce any considerable amount of harvestable crop, but it is well worth the wait and after that point, can provide harvests for up to 20 years. Asparagus is a dioecious species meaning that there are separate male and female plants. Because female asparagus plants will eventually produce flowers and berries (if the flowers are pollinated), their spears are generally smaller than the male plants (male plants have more available energy to invest into growing the spears).

Parts of the Asparagus Plant



Ideas for Your Classroom

Elementary School

- *Stem Investigation Activity* (see attachment - designed for the 4th grade level).
- Read *Stems* by Marissa Kirkman and do a taste test of different stems such as asparagus, celery, rhubarb, and green onions.

Middle School

- *History Exploration: Asparagus* (see attachment) - have students research different historical topics of asparagus and report back to the class.

High School

- For a chemistry or biology lesson, have students read this [research article](#) on genetics and the 'stinky' urine that some people experience after eating it. Discuss good and bad research methods in relation to the studies mentioned in the article.
- Have students research the effect of cooking on asparagus and other vegetables. What is lost with cooking? (vitamins) What is gained? (antioxidants)



Stem Investigation with Asparagus



In this lesson, playing with your food is a good thing! Learn about the function of stems through this investigative activity.

Part 1: Class Discussion

Start class by discussing the different parts of a plant. Draw a diagram on the board of a simple plant (such as a flower). Ask students what each part of the plant is (some or all of the following - roots, stem, leaves, flower, fruit, seeds). Discuss what the purpose is of each part of the plant:

- The **roots** keep the plant in the ground and absorb water and nutrients.
- The **stem** supports the rest of the plant (leaves, flowers, fruit, seeds) and transports water and nutrients to the rest of the plant.
- The **leaves** "absorb" sunlight and make food for the plant through photosynthesis.
- The **flowers** allow the plant to be pollinated and make seeds to reproduce.
- The **fruits** protect the seeds and help the seeds to spread across the ground (animals eat it).
- The **seed** grows a new plant.

Part 2: Asparagus Dissection

Materials:

- Small plastic containers
- Blue food coloring
- Water
- Asparagus spears (you need 1/2 the amount of students you have in spears)
- Plastic plates
- Plastic knives

Instructions:

1. The day prior to the dissection, divide students into pairs and give each pair 1 asparagus spear. Have each student place their spear in container with water and blue food coloring. Place the jars near a window.
2. On the day of the dissection, give students back their asparagus spears. First, tell students they will be using a plastic knife and discuss safety rules. Then, have them follow the instructions for the dissection of the spear and answer the questions on their handout (attached).
3. After the students have finished their investigation, discuss their observations together as a class emphasizing the role of stems (transport water and nutrients to the rest of the plant).

Name: _____



Stem Investigation with Asparagus



Working together with your partner, follow the instructions below and answer the questions as you go through each step.

Step 1: Remove your asparagus spear from the jar and place on your plate.

Carefully examine the outside of your asparagus. Draw below what your asparagus looks like and label the plant parts that are present.

Now we are going to cut the asparagus open and examine the inside. What do you think we will find inside?

Step 2: Cut a piece of the asparagus off. Follow the diagram to know where to cut.



Observe the inside of the stem very closely. Write down observations of what the inside looks like.

Draw a colored diagram of the inside of the stem (make sure to include the blue parts!).

Step 3: Cut the rest of the asparagus in half. Follow the diagram.



Observe the inside of the stem closely. What do you see?

Draw a colored diagram of this section of the stem (don't forget the blue parts!)

Step 4: Using your observations and diagrams from the last two steps, answer the following questions.

Compare the pattern you saw in Step 2 with the pattern you saw in Step 3.

What happened while the asparagus was sitting in the blue water?

Using your answer to the previous question, what is the purpose of a stem?



History Exploration

Asparagus



Asparagus has been cultivated for more than 2,500 years by people worldwide. It continues today to be a universal vegetable, grown and consumed in Asia, Europe, South America, and North America. Research a historical topic of interest related to asparagus and give a short 2-min presentation to the class on your topic.

Topics may include:

- Research the historical timeline of asparagus. Where was it first grown (in nature and commercially) and where did it travel to from there?
- Research the beginnings of the U.S. asparagus industry. Who were the first people to grow asparagus in the U.S.? Why did growers produce more green asparagus? When and why did fresh asparagus become more common than canned or frozen asparagus?
- Research the medicinal uses of asparagus. Hypothesize why asparagus was used for these purposes.
- Choose a culture, group of people, or country and research the role asparagus has played in its society or agricultural economy. Include recipes, holidays, medicinal uses, literature, and/or economic impact.

